

**CELLS HAVING A SPECTRAL SIGNATURE, AND METHODS OF
PREPARATION AND USE THEREOF**

ABSTRACT

Methods, compositions and articles of manufacture for encoding a cell with semiconductor nanocrystals and/or other fluorophors are provided. The encoded cells can be subjected to functional assays in mixed populations, and an assay result can be determined and associated with individual cells by virtue of their code. The methods are particularly useful in multiplex settings where a plurality of encoded cells are to be assayed. The methods are used in screening methods for G protein coupled receptors (GPCRs), for identifying the ligands and functions of orphan GPCRs, and for screening for modulators of GPCRs. Kits comprising reagents for performing such methods are also provided.